



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/531,725	04/18/2005	Masahiro Ishida	OGW-0362	2313
7590	12/29/2008		EXAMINER	
Patrick G. Burns - Greer, Burns & Crain, Ltd. Suite 2500 300 South Wacker Drive Chicago, IL 60606			MAKI, STEVEN D	
ART UNIT	PAPER NUMBER			
		1791		
MAIL DATE	DELIVERY MODE			
12/29/2008	PAPER			

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/531,725	Applicant(s) ISHIDA, MASAHIRO
	Examiner Steven D. Maki	Art Unit 1791

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If no period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED. (35 U.S.C. § 133).

Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 19 December 2008.

2a) This action is FINAL. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 5-8 and 10-12 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) Claim(s) _____ is/are allowed.

6) Claim(s) 5-8 and 10-12 is/are rejected.

7) Claim(s) _____ is/are objected to.

8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on _____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) Notice of References Cited (PTO-892)
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
 3) Information Disclosure Statement(s) (PTO-166/08)
Paper No(s)/Mail Date _____

4) Interview Summary (PTO-413)
Paper No(s)/Mail Date _____

5) Notice of Informal Patent Application
 6) Other: _____

1) A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 12-19-08 has been entered.

2) The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3) **Claims 5-8 and 10-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over German 475 (DE 4239475) in view of Japan 711 (JP 2002-059711), Japan 829 (JP 07-164829) and German 365 (DE 4,302,365).**

German 475, directed to a tread design producing *good aquaplaning properties but without increasing roll noise*, discloses a vehicle tire (pneumatic tire) with a tread comprising arc shaped grooves. **The arc-shaped grooves are connected together such that an "arcuate curved main groove" having a continuous inner edge is provided on each side of the tread center (figure 6).** In claim 11, "plurality of arcuate grooves that are circumferentially formed, said arcuate grooves including adjacent inner side edges, that face said circumferential straight main groove and that are connected to each other, so as to be continuous in a repeated manner" reads on German 475's connected arc shaped grooves shown for example in figure 6. German 475 also

teaches providing a wide central groove 10 at the tread center 2c to *improve aquaplaning resistance* wherein the wide central groove 10 has a straight configuration. See figure 9. **German 475 teaches that the wide central groove 10 may be used in all of the disclosed embodiments and not just the figure 9 embodiment.** See paragraph 40 of the machine translation. Hence, German 475 substantially discloses the claimed invention except for the smaller width circumferential auxiliary grooves.

As to claim 11, it would have been obvious to one of ordinary skill in the art to provide German 475's directional tread pattern with auxiliary circumferential grooves having a width of less than 2 mm so as to have a width less than that of the straight wide central groove 10 and the "arcuate curved main grooves" (4a, 4b, 4c) formed by the connected arc shaped grooves 4 since Japan 711 suggests providing a directional tread pattern comprising main circumferential grooves having a width of 4-12 mm with **narrow circumferential grooves having a width or 2 mm or less** to *increase wandering performance and prevent wear* (paragraph 31 of machine translation). Hence, Japan 711 motivates one of ordinary skill in the art to provide German 475's directional tread with "narrow auxiliary circumferential grooves" having a width (i.e. 2 mm or less) less than the width arc-shaped main grooves and wide central main groove to increase wandering performance and prevent wear. One of ordinary skill in the art would have readily appreciated that German 475's "arcuate curved main grooves" ("inner circumferential grooves") and "wide central groove" ("center circumferential groove") can and should have a width greater than the width of 2 mm or less for the

circumferential groove 20 suggested by Japan 711 since these grooves of German 475 are for channeling water and improving aquaplaning performance.

With respect to diagonal grooves, each of German 475's arc shaped grooves extends diagonally to the tread edge and Japan 711 suggests locating the narrow circumferential grooves near the tread edges such that they cross diagonal grooves.

With respect to without extending to an outer edge, it would have been obvious to one of ordinary skill in the art to form German 475's **inclined grooves 4** (which extend from the central region of the tread) such that their outer edge portions are located within the tread shoulder region without extending to an outer edge of the tread shoulder region in view of Japan 829's suggestion to form inclined grooves 3 (which extend from a central region of the tread) such that their outer edge portions are located within the tread shoulder region without extending to the outer edge of the tread shoulder region to suppress pattern noise and improve wet performance without deteriorating the steering stability (figure 1, abstract). With respect to Japan 829's teaching to terminate inclined grooves 3 within tread shoulder regions (the outer edges of which define tread width TW), it is noted that Japan 711 also shows inclined grooves (i.e. grooves 19) terminating within a tread shoulder region.

With respect to terminating prior to reaching said arcuate main grooves, it would have been obvious to one of ordinary skill in the art to form German 475's **wider width inclined grooves 3** such that they extend from the outer edge of the tread shoulder region and extend into the tread center region without reaching the arcuate main grooves ("inner circumferential grooves") in view of Japan 829's suggestion to extend

inclined grooves 2 of a tire having suppressed pattern noise and improved wet performance from the outer edge of the tread shoulder region and into the tread center region without reaching the inner circumferential grooves. Attention is directed to grooves 2, 2p in Japan 829. With respect to Japan 829's teaching to terminate inclined grooves 2, 2p in the tread center region, it is noted that Japan 711 also shows inclined grooves (i.e. grooves 24) terminating in the tread center region.

With respect to the all of the inclined grooves being inclined in the same direction, it would have been obvious to one of ordinary skill in the art to form the Figure 6 tread such that all of the inclined grooves are inclined in the same direction with respect to the associated auxiliary groove (the inclination direction of all of the inclined grooves thereby being opposite to that of a rotation of rotation) since (1) German 475 teaches that all of the curved inclined grooves *on one side of the tread* may be inclined in the same direction (Figure 9) and (2) German 365, also directed to a tire tread having curved inclined grooves connected together, suggests inclining all of the curved inclined grooves *on both sides of the tread* in the same direction in a tire tread having high safety on wet roads ("high water drainage"). See Figure 1 which shows all of the curved grooves inclining in the same direction (i.e. toward the top of the page), abstract and machine translation (e.g. bottom of page 1 of machine translation of German 365). One of ordinary skill in the art would readily appreciate that the above noted disclosure of German 365 is applicable to German 475 since the directional tread pattern of German 365 is noticeably similar to that of German 475. No unexpected results over the applied prior art has been shown.

As to claim 5, it would have been obvious to one of ordinary skill in the art to provide the straight main wide central groove and the arcuate curved main groove with widths of 5-15 mm in view of (1) German 475's teaching to use "main" grooves 4 and 10 for improving aquaplaning performance and (2) Japan 711's teaching to form main grooves in a tire tread with a width of 4-12 mm.

As to claim 6, Japan 711 teaches a width of 2 mm for the narrow circumferential grooves 20.

As to claim 7, it would have been obvious to one of ordinary skill in the art to provide the inclined grooves (the arc shaped grooves between the "arcuate curved main groove" and the tread edge) with a width of 1-7 mm in view of (1) German 475's teaching to use "main" grooves 4 for improving aquaplaning performance and (2) Japan 711's teaching to form main grooves in a tire tread with a width of 4-12 mm.

As to claims 8 and 10, note "convex" shape for grooves 4 in figures 1, 6 or figure 9 of German 475.

4) **Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over German 475 (DE 4239475) in view of Japan 711 (JP 2002-059711), Japan 829 (JP 07-164829) and German 365 (DE 4,302,365) as applied above and further in view of Japan 208 (JP 03-074208).**

With respect to claim 12 (see through state), it would have been obvious to one of ordinary skill in the art to provide German 475's connected arc-shaped main grooves such that the "arcuate curved main grooves" are circumferentially formed to be in a see through state since (1) German 475 shows that the curvature of the arc shaped grooves

4 for improving aquaplaning may be such that the connected arc shaped main grooves form a relatively straight "arcuate curved main groove" (see left side of figure 9) and (2) Japan 208, directed to a tread design for improved dry and wet performance, suggests connecting grooves such that the connected grooves are circumferentially formed to be in a see through state defining a width *w* to prevent lowering of drainage property. Hence, German 475 and Japan 208 disclose the same feature of a *circumferential groove having non-linear edges* and Japan 208 motivates one of ordinary skill in the art to increase the width of such a groove to form a "window" to prevent lowering of drainage property. It is noted that one of ordinary skill in the art would readily appreciate that the curved inclined grooves on the left side of Figure 9 of German 475 can be used for both sides of the tread since (1) the curved inclined grooves on the left side of German 475's Figure 9 tread are substantially similar to the curved inclined grooves on the left side of German 365's tread and (2) German 365 teaches using the same type of curved inclined grooves on both sides of the tread (Figure 1).

Remarks

- 5) Applicant's arguments with respect to claims 5-8 and 10-12 have been considered but are moot in view of the new ground(s) of rejection.
- 6) No claim is allowed.
- 7) Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steven D. Maki whose telephone number is (571) 272-1221. The examiner can normally be reached on Mon. - Fri. 8:30 AM - 5:00 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (571) 272-1226. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1791

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Steven D. Maki/
Primary Examiner, Art Unit 1791

Steven D. Maki
December 22, 2008